

REMARKS

The application has been amended to place it in condition for allowance at the time of the next Official Action.

Claims 17-25, 27, 28, 33, 34 and 36-39 were previously pending in the application. Claim 18 is canceled, leaving claims 17, 19-25, 27, 28, 33, 34 and 36-39 for consideration.

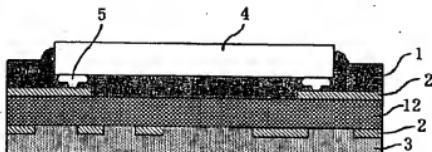
Independent claims 17 and 23 are amended to include the subject matter of claim 18.

Claims 17-25, 27, 33-34 and 36 were rejected under 35 USC §103(a) as being unpatentable over KURITA U.S. Publication No. 2002/0135057 in view of MATSUMURA U.S. Publication No. 2003/0101584. That rejection is respectfully traversed.

Claims 17 and 23 are amended to include the subject matter of claim 18 and recite that the chip part protrudes from the first major surface of the insulating resin layer.

By way of example, Figure 7B of the present application, reproduced below, shows chip part 4 protruding from the first major surface (top surface in Figure 7B) of the insulating resin layer 1.

Fig. 7B



The Official Action offers Figure 4 of KURITA as showing a resin layer 7 having a first major surface 15 with a chip part 1 thereon.

However, as seen in Figure 4 of KURITA, reproduced below, the chip part 1 does not protrude from the first major surface.

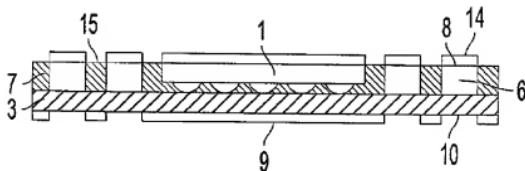


FIG. 4

Rather, the chip part 1 of KURITA is coplanar with the first major surface (see paragraph [0041]). The only element that might be considered as protruding from the first major surface is wiring 14 (see paragraph [0048]). However, wiring 14 is not part of the chip 1. KURITA never discloses that the chip part protrudes from the first major surface of the insulating resin layer.

MATSUMURA is only cited with respect to an electrode having a sharp tip. MATSUMURA does not disclose or suggest that the chip part protrudes from the first major surface of the insulating resin layer.

The above-noted feature is missing from each of the references, is absent from the proposed combination of references

and thus, the proposed combination of references does not meet claims 17 and 23.

Moreover, claims 17 and 23 further recite that the projection electrode of the chip part includes a sharp tip that is connected with said first wiring layer.

During formation of the present device, the projection electrode pushes through the insulating resin in order to make the recited connection with the first wiring layer. That is, the insulating resin is between the chip and the first wiring layer so that the first wiring layer is covered by the insulating resin (see, for example, Figure 7B above) and the insulating layer protects the projection electrodes as they are connected to the first wiring layer.

By contrast, the electrodes 2 of KURITA are connected to wiring layer 3 that is not covered by an insulating resin (see paragraphs [0013] - [0016] and [0036] - [0038] and Figures 2A to 2C). It is only after connection of the electrodes to the wiring layer that an insulating resin is added.

Thus, if a sharpened electrode were used in place of the bump of KURITA, such sharpened electrode would warp or become curved when the connection of the IC chip to the wiring layer is made. That is, KURITA does not teach an insulating layer that prevents deformation of the bump as the bump is connected to the wiring layer. Such deformation of the bump would make it difficult to realize a good connection.

In view of this, one of ordinary skill in the art would not have been motivated to make the proposed modification.

Accordingly, not only is the proposed modification not obvious to one of ordinary skill in the art, but also such modification does not result in the invention as claimed in claims 17 and 23. Therefore, claims 17-25, 27, 33-34 and 36 are believed to be patentable over the proposed combination of references.

Claims 28 and 37 were rejected under 35 USC 103(a) as being unpatentable over KURITA in view of SAKAMOTO et al. 6,791,199. That rejection is respectfully traversed.

SAKAMOTO is only offered with respect to a thermosetting resin. SAKAMOTO does not disclose what is recited in claims 17 and 23. As set forth above, KURITA does not disclose what is recited in claims 17 and 23. Since claims 28 and 37 depend from claims 17 and 23, respectively, and further define the invention, these claims are believed to be patentable at least for depending from an allowable independent claim.

In view of the present amendment and the foregoing remarks, it is believed that the present application has been placed in condition for allowance. Reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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